TIDRADIO

TD-H3

TWO WAY RADIO

USER MANUAL

Ham Radio

PREFACE

Thank you for purchasing TD-H3. It is a dual band/dual display/dual watch radio. Combining the latest technology in radio communication along with a sturdy mechanical frame, This product is the ideal and effective solution for the professionals who need to stay in touch with the working team (in construction sites, buildings, shows, trade fairs or hotels) or for leisure users that just want to keep up with friends and family.

IMPORTANT NOTICE

To help you ward off bodily injury or property loss that may arise from improper operation, please read all the information carefully before using our products. This contains instructions for safe usage and RF energy awareness and control for compliance with applicable standards and regulation.

Safety Information for Radios

Your wireless handheld portable transceiver contains a low power transmitter. When the talk button is pushed, it sends out radio frequency (RF) signals. The device is authorized to operate at a duty factor not to exceed 50%. In August 1996, the Federal Communications Commissions (FCC) adopted RF exposure guidelines with safety levels for handheld wireless devices.

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1. GETTING STARTED

1.1 Regulations and Safety Warnings

FCC Licensing Information

This device complies with Part 97 and 15 of the federal Communications Commission (FCC) Rules.
Operation is subject to the condition that that this device does not cause harmful interference. The radio operates on radio frequencies that are regulated by the Federal Communications Commission (FCC). To transmit on these frequencies, you are required to have a license issued by the FCC. To obtain forms, call the FCC forms hotline at: 1-800-418-3676 or go to http://www.fcc.gov For questions concerning commercial licensing, contact the FCC at 1-888- CALL-FCC (1-888-225-5322).
Before filling out you application, you must decide which frequency you can operate on.
NOTICE: Use of this radio outside the country where it was intended to be distributed is subject to government regulations and may be prohibited.

FCC Regulatory Conformance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. Verification of harmful interference by this equipment to radio or television reception can be determined by turning it off and then on. The user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

WARNING!MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBIITED UNDER FCC RULES AND FEDERRAL LAW.

EU Regulatory Conformance

As certified by the qualified laboratory, the product is in compliance with the essential requirements and other relevant provisions of the Directive 2014/53/EU. All applicable EU regulations are regarded (2006/66/EC, 2011/65/EU,(EU)2015/863, 2012/19/EU). ***NOTE: It can be operating under 2000m.***

WARNING!European Users should note that operation of this unit in Transmit mode requires the operator to have a valid Amateur Radio License from their respective Countries Amateur Radio Licensing Authority for the Frequencies and Transmitter Power levels that this Radio transmits on. Failure to comply may be unlawful and liable for prosecution. At this subject, refer to the “EU” specification guide 2014/53/EU.

Please note that the above information is applicable to EU countries only

Compliance with RF Exposure Standards

The radio complies with the following RF energy exposure standards and guidelines:

- United States Federal Communications Commission, Code of Federal Regulations; 47 CFR § 1.1307, 1.1310 and 2.1093
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95.1:2005; Canada RSS102 Issue 5 March 2015
- Institute of Electrical and Electronic Engineers (IEEE) C95.1:2005 Edition

RF Exposure Information

WARNING! Read this information before using the radio. In August 1996 the Federal Communications Commission (FCC) of the United States with its action in Report and Order FCC 96-326 adopted an updated safety standard for human exposure to radio frequency electromagnetic energy emitted by FCC regulated transmitters.

Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies. The design of the radio complies with the FCC guidelines and these international standards.

Never allow children to operate the radio without adult supervision and the knowledge of the following guidelines.

WARNING! It is up to the user to properly operate this radio transmitter to insure safe operation. Please adhere to the following:

Use only the supplied or an approved antenna. Unauthorized antennas, modifications, or attachments could impair call quality, damage the radio, or result in violation of FCC regulations.

Do not use the radio with a damaged antenna.

If a damaged antenna comes into contact with the skin, a minor burn may result. Please contact your local dealer for a replacement antenna.

Hand-held Operation (Held-to-Face)

This device was evaluated for typical hand-held (held-to- face) operations with a 1 inch spacing from the front of the radio. For hand-held operation, the radio should be held 1 inch from the user's face in order to comply with FCC RF exposure requirements.

Body-worn Operation

This device was evaluated for body-worn operations with the supplied belt-clip accessory. (All necessary accessories are included in the package; any additional or optional accessories are not required for compliance with the guidelines.) Third party accessories (unless approved by the manufacturer) should be avoided as these might not comply with FCC RF exposure guidelines.

For more information about RF exposure, please visit the FCC web site at www.fcc.gov.

FCC Warnings

Replacement or substitution of transistors, regular diodes or other parts of a unique nature, with parts other than those recommended by our company may cause a violation of the technical regulations of part 95 of the FCC rules, or violation of type acceptance requirements of part 2 of the rules.

1.2 Main features

- Dual displayed, Dual watch, Dual band
- Operating modes: UHF/VHF, UHF/UHF, VHF/VHF
- CTCSS and DCS codes research
- Squelch adjustable in 9 levels
- 199 Programmable Channels
- 50 CTCSS tones and 105 DCS codes
- 1750Hz tone for repeaters
- SOS Emergency function
- 1.44 TFF Color Screen
- Built-in FM Radio (76.0-108.0MHz)
- VOX, Scan, Dual Watch functions
- 2pin Kenwood accessory jack
- Channel or frequency mode selection
- TOT (Time out timer)
- DTMF function
- Setting and storing of channel names
- Busy Channel Lockout function (BCL)
- VOICE: vocal indication of the function selected
- Frequency step: 2.5/5/6.25/10/12.5/25KHz
- Frequency offset (adjustable): 0-69.990MHz
- Power Save
- Bluetooth Programming
- 5W/2W RF output adjustable
- AirBand:108Mhz-136Mhz

About Range

This product series radios are designed to give you maximum range under optimum conditions.

- Maximum Range: Little to No sight Obstruction.
- Medium Range: Partial Obstruction to line of sight.
- Short Range: Major Obstruction to Ling of Sight.

Optimum Conditions are:

- Over water
- Open rural areas without obstructions
- Flat areas where you can see the other person

To ensure you get maximum range:

- Be sure to use fresh or fully charged batteries - low batteries will cause low power conditions.
- Be sure to set your radio to use Hi power.

1.3 Maintenance

Your Two Way Radio is an electronic product of exact design and should be treated with care.
The suggestions below will help you to fulfill any warranty obligations and to enjoy this product for many years.

- Do not attempt to open the radio for any reason! The radio's precision mechanics and electronics require experience and specialized equipment; for the same reason, the radio should under no circumstances be realigned as it has already been calibrated for maximum performance. Unauthorized opening of the transceiver will void the warranty.
- Do not store the Radio under the sunshine or in hot areas.
- High temperatures can shorten the life of electronic devices, and warp or melt certain plastics.
- Do not store the radio in dusty and dirty areas.
- Keep the Radio dry. Rainwater or damp will corrode electronic circuits.
- If it appears that the Radio diffuses peculiar smell or smoke, please shut off its power immediately and take off the charger

or battery from the radio.
- Do not transmit without antenna.

2. BATTERY INFORMATION

2.1 Charging the Battery Pack

The Li-ion battery pack is not charged at the factory; please charge it before use. Charging the battery pack for the first time after purchase or extended storage (more than 2 months) may not bring the battery pack to its normal maximum operating capacity. Best operation will require fully charging/ discharging the battery two or three times before the operating capacity will reach its best performance. The battery pack life may be depleted when it’s operating time decreases even though it has been fully and correctly charged. If this is the case, replace the battery pack.

2.2 Charger Supplied

Please use the specified charger provided by our company. Other models may cause explosion and personal injury. After installing the battery pack, and if the radio displays low battery with a voice prompt, please charge the battery.

2.3 Use Caution with the Li-ion Battery

a. Do not short the battery terminals or throw the battery into a fire. Never attempt to remove the casing from the battery pack, as our company cannot be held responsible for any accident caused by modifying the battery.
b. The ambient temperature should be between 5℃-40℃ (40˚F - 105˚F) while charging the battery. Charging outside this range may not fully charge the battery.
c. Please turn off the radio before inserting it into the charger. It may otherwise interfere with correct charging.
d. To avoid interfering with the charging cycle, please do not cut off the power or remove the battery during charging until the green light is on.
e. Do not recharge the battery pack if it is fully charged. This may shorten the life of the battery pack or damage the battery pack.
f. Do not charge the battery or the radio if it is damp. Dry it before charging to avoid damage.

WARNING!

When keys, ornamental chain or other electric metals contact the battery terminal, the battery may become damage or injure a human. If the battery terminals are short circuited it will generate a lot of heat. Take care when carrying and using the battery. Remember to put the battery or radio into an insulated container. Do not put it into a metal container.

2.4 How to Charge

a. Plug the AC adaptor into the AC outlet, and then plug the cable of the AC adaptor into the DC jack located on the back of the charger. The indicator light blinks orange and is then ready to charge a battery.
b. Plug the battery or the radio into the charger. Make sure the battery terminals are good in contact with charging terminals. The indicator light turns to red--- charging begins.
c. It takes approximately 2-5 hours to fully charge the battery. When the lamp lights green, the charging is completed. Remove the battery or the radio unit with its battery from socket.

When charging a radio (with battery) the indicating lamp will not turn into green to show the fully charged status if the radio is powered on. Only when the radio is switched off will the lamp indicate normal operation. The radio consumes energy when it is power-on, and the charger cannot detect the correct battery voltage when the battery has been fully charged. So the charger will charge the battery in constant voltage mode and fail to indicate correctly when the battery has been fully charged.

2.5 LED Indicator

STATUS	LED
No Battery	Green and red alternately flashing
Charge Normally	Red
Fully Charged	Green

NOTE：Trouble means battery too warm, battery short−circuited or charger short−circuited.

2.6 How to Store the Battery

a. If the battery needs to be stored, keep it in status of 80% discharged.
b. It should be kept in low temperature and dry environment.
c. Keep it away from hot places and direct sunlight.
» Do not short circuit the battery terminals.
» Never attempt to remove the casing from the battery pack.
» Never store the battery in unsafe surroundings, as a short may cause an explosion.
» Do not put the battery in a hot environment or throw it into a fire, as it may cause an explosion.

3. INSTALLATION OF ACCESSORIES

Before the radio is ready for use we need to attach the battery pack, as well as charge the battery.

3.1 Installing the belt clip

a. At the back of the radio there are two parallel screws mounted above the battery, remove these and thread them through the holes on the belt clip as you screw them back into the radio body.

b. Removing the Belt Clip: Unscrew counter-clockwise to remove the belt clip.

3.2 Installing the battery pack

Before attaching or removing the battery make sure your radio is turned off by turning the power/volume knob all the way counter-clockwise.
a. Make sure the battery is aligned in parallel with the radio body with the lower edge of the battery about 1-2cm below the edge of the radio.
b. Once aligned with the guide-rails, slide the battery upward until you hear a click as the battery locks in place.

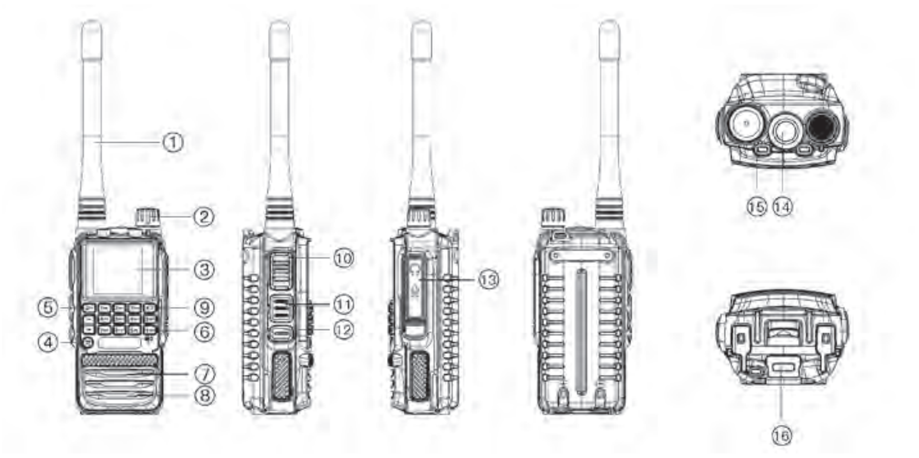
Remove the battery pack

To remove the battery, press the battery release below the battery pack.

3.3 Installing the Additional Speaker/Microphone (Optional)

Pry open the rubber MIC-Headset jack cover and then insert the Speaker / Microphone plug into the double jack.

4.RADIO OVERVIEW

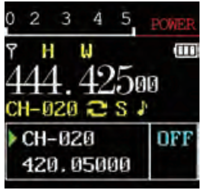


4.1 Buttons and controls of the radio

1. Antenna
2. Power Switch / Volume control: Rotate to switch on/off the radio and adjust the volume
3. 1.44 TFF Color Screen
4. VFO/MR/Exit: Channel Mode/Frequency Mode
5. Menu/ BL Key: Long Press--- activate/ Reset Bluetooth Programming. Short Press --- Enter Menu interface
6. A/B key: press to switch A/B band
7. Speaker
8. Microphone
9. Keypad: channel mode, enter the channel number; frequency mode, enter the working frequency; menu mode, directly enter the menu items
10. PTT A Key:Transmit key, hold the key to speak at Channel A, release the key after speaking, and receive incoming calls.
11. PTT B Key:Transmit key, hold the key to speak at Channel B, release the key after speaking, and receive incoming calls.
12. LAMP / Customized Key: Default Flashlight but can be customized by Programming software, such as FM radio, TONE, alarm,NOAA.
13. Kenwood Port/ Type-C programming port
14. Flashlight
15. Indicator: Red when transmitting; Green when receiving.
16. Battery latch

4.2 Main controls and parts of the radio

LCD Display



No.	Icon	Description
1	📶	Signal strength indication
2	H	High transmitting power(longest communication distance and largest power consumption).
	L	Low transmitting power(most power efficient and relatively close distance).
	M	Mid transmitting power
3	♪	Beep
4	DCS	This symbol indicates that the current tone is DCS.
	CT	This symbol indicates that the current tone is CTCSS.
5	+	The difference between the receive and transmit frequencies of a radio channel is + offset
6	−	The difference between the receive and transmit frequencies of a radio channel is - offset
7	⇄	The presence of this symbol indicates that the dual-band watch is on, in the dual watch state, the intercom can simultaneously monitor the two frequency bands displayed on the screen
8	🔒	The symbol will appear when the keyboard is locked；Hold【# ⚷ 】to unlock
9	🗨	This symbol indicates that the VOX function is activated and the intercom will start transmitting when the sound pressure level of the microphone reaches the set value.
10	R	Reverse the receive and transmit frequencies in frequency mode/channel mode.
11	N	This symbol appears when the channel is operating in narrowband mode.
12	▣	Current battery power remaining. ▣ Full battery charge； ▣ ◧ Battery Remains. ☐ When the battery is about to run out, the outer frame of this icon flashes to show that the radio is unable to transmit at this time.
13/17	Frequency	Working Frequency on A/B band
14/15	➡	A/B band indicator
16/18	Channel No.	The channel number of the A/B band in channel mode.

4.3 Status Indications

The status LED has a very simple and traditional design.

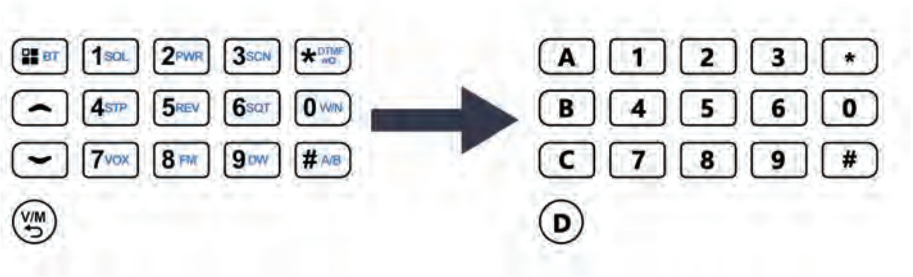
LED Indicator	Radio Status
Constant Red	Transmitting.
Constant Green	Receiving.

4.4 Main keypad controls

- **(MENU)**key: It is used for activating the MENU, choose each MENU selection and confirm the parameter.
- ⌒ key: Press it for more than 2 seconds, the channel and frequency will move upwards rapidly; in SCAN mode, press this control to move the scanning upwards.
- ⌣ key: Keep it pressed it for more than 2 seconds, the channel and frequency will move downwards rapidly; in SCAN mode, press this control to move the scanning downwards.

• Numeric keypad

With these keys you can input the information or your selections on the radio. In tx mode, push the number keys to send a corresponding DTMF code.



• * DTMF/Key

A short momentary press of the key enter DTMF interface

If you press this button for more than 2 seconds you will lock/unlock the keypad.

5. BASIC OPERATIONS

5.1 Power on the radio

• Turning the unit on

To turn the unit on, simply rotate the volume/power knob clockwise until you hear a "click". If your radio powers on correctly there should be an audible double beep after about one second and the display will show a message or flash the LCD depending on settings for about one second. Then it will display a frequency or channel. If the Voice prompt is enabled, the voice will announce "frequency mode" or "channel mode".

• Turning the unit off

Turn the volume/power knob counter-clock wise all the way until you hear a "click". The unit is now off.

5.2 Adjusting the volume

To turn up the volume, turn the volume/power knob clock-wise. To turn the volume down, turn the volume/power knob counter-clock-wise. Be careful not to turn it too far, as you may inadvertently turn your radio off.

5.3 Channel selection

There are two modes of operation: Frequency (VFO) mode, and Channel or Memory (MR) mode.

For everyday use, Channel (MR) mode is going to be a whole lot more practical than Frequency (VFO) mode. However, Frequency (VFO) mode is very handy for experimentation out in the field. Frequency (VFO) mode is also used for programming channels into memory.

In Channel (MR) mode you can navigate up and down the channel by using the ⌒/⌣ keys or the encoder.

Ultimately which mode you end up using will depend entirely on your use case.

5.4 Making a call

• Channel mode call: After selecting a channel, hold down the **[PTT]** key to initiate a call to the current channel. Speak into the microphone with normal tone. Initiate a call, the red LED is on.
• Frequency mode call: The off state, hold press [MENU] key to open the radio, switching to the frequency mode, the frequency range allowed entering, press the **[PTT]** key, a call to the current channel. Speak into the microphone with normal tone. Initiate a call, the red LED is on.
• Receive a call: When you release the **[PTT]** key, you can answer it without any action.
When receiving a call, the green LED is on.

NOTE: To ensure the best reception volume, keep the distance between the microphone and the mouth at the time of transmission from 2.5 cm to 5 cm.

5.5 Frequency (VFO) mode

In Frequency (VFO) mode you can navigate up and down the band by using the ⌒/⌣ keys. Each press will increment or decrement your frequency according to the frequency step you've set your transceiver to.
You can also input frequencies directly on your numeric keypad with kilohertz accuracy.
The following example assumes the use of a 12.5 kHz frequency step.
Example. Entering the frequency 432.56250 MHz on display A
a. In standby mode, switch to the frequency (VFO) mode.
b. Enter [4][3][2][5][6][2][5] [0] on the numeric keypad.

WARNING!
Just because you can program in a channel does not mean you're automatically authorized to use that frequency. Transmitting on frequencies you're not authorized to operate on is illegal, and in most jurisdictions a serious offence. However, it is legal in most jurisdictions to listen. Contact your local regulatory body for further information on what laws, rules and regulations apply to your area.

5.6 Channel (MR) mode

The use of Channel (MR) mode is dependent on actually having programmed in some channels to use.
Once you have channels programmed and ready, you can use the ⌒ / ⌣ keys or the encoder to navigate between channels.

◎In MR mode, the channel number will be displayed on the right.

6. ADVANCED FEATURES

6.1 Frequency scanning

This function can scan the frequency.

a. In frequency mode, press［SCAN］key for more than 2 seconds. The radio will start scanning the frequency according to the set frequency step.

b. Press [EXIT]key to stop the scanning.

Note: for Scan mode, see Menu No.17.

6.2 Channel scanning

Use scan to search the channels for transmissions from unknown parties, to find someone in your group who has accidentally changed channels or to quickly find unused channels for your own use.

a. In channels mode, press［SCAN］ key for more than 2 seconds. The radio will start scanning according to the channel you set.

b. You can change the scanning direction with the ⌒ / ⌣ keys.

c. Press EXIT key to stop scanning.

6.3 CTCSS scanning

The function allows scanning the frequencies with CTCSS tone enabled.

a. In standby mode, press [MENU] [2][8]

b. Press [MENU] and the scan of CTCSS tones will start.

6.4 DCS scanning

This function allows scanning the frequencies with DCS code enabled.

a. In standby mode, press [MENU][2][9]

b. Press [MENU] and the scan of DCS codes will start.

6.5 Keypad lock

This function locks the keypad to prevent accidental pressure of the controls.
To unlock the keypad, press [* ⊸] for more than 2 seconds.

6.6 FM Radio (FM)

The frequency range to listen to the radio is 76-108MHz.

A. In frequency mode, Press [Menu] then Press the Button [8].

B. Repeat the Process A to exit FM radio.

Note: while you are listening to the radio, the frequency or channel of A / B receiving signal will automatically switch to the frequency or channel mode for normal transmitting and receiving. When the signal disappears the radio will automatically switch again to FM radio mode.

6.7 TX 1000Hz, 1450Hz, 1750Hz, 2100Hz repeaters tone

Press [PTT] + [LAMP/Monitor] to send 1750Hz repeaters tone. This function is useful for communications through repeaters. If you have the keypad lock enabled on your radio, you can still send a 1750Hz tone the regular way without having to unlock your radio.

6.8 Manual Programming (Channels Memory)

Memory channels are an easy way to store commonly used frequencies so that they can easily be retrieved at a later date. The radio features 199 memory channels that each can hold: Receive frequencies, group signaling information, bandwidth, ANI/ PTT-ID settings and a six character alphanumeric identifier or channel name .You store them in the specified channel number via menu 25 Store Channels.

Frequency Mode vs. Channel Mode

In standby mode, press VFO/MR key to switch between frequency (VFO) mode and channel (MR) mode.
These two modes have different functions and are often confused.
Frequency Mode (VFO) : Used for a temporary frequency assignment, such as a test frequency or quick field programming if permitted.
Channel Mode (MR) : Used for selecting preprogrammed channels.
Ex 1. Programming a Scan Channel with CTCSS Tone

EXAMPLE New memory in Channel 31:

RX = 432.55000 MHz
TX CTCSS tone 123.0
A. Press the [EXIT] button to switch between menus.
B. Press and hold the [VFO/MR] key to set the radio to VFO mode, and the VFO icon is displayed on the right.
C. [MENU] [2][6]   Deletes Prior Data in channel (Ex. 31)
D. [MENU] [1][1] then Press[︿]or[﹀]key to 123.0 [MENU] [EXIT]   Selects desired RX encode tone

E. Enter RX frequency (Ex. 43255000)
F. [MENU] [2][5] [MENU] [3][1] [MENU]   Enter the desired channel (Ex 31)
-->>[EXIT]   RX has been added
G. Press [VFO/MR] key to return to the MR mode and the channel number will reappear.

Ex 2. Channel memory for scanning frequency

EXAMPLE New memory in Channel 31:
Scans frequency
RX = 432.55000 MHz
RX DCS D023N

A. Press the [EXIT] button to switch between menus.
B. Press and hold the [MENU] key to set the radio to VFO mode, and the VFO icon is displayed on the right.
C. [MENU] [1][7] [MENU]   Enter the scan range menu
D. Press and hold the [3 SCAN] key to start frequency   Frequency required for scanning
Scan stops temporarily when the frequency is scanned, press [PTT]
key to stop scanning, confirm the required frequency.   Stop scanning, the required storage frequency
E. [MENU] [10] then Press[︿]or[﹀]key to 023N [MENU][EXIT]   Select desired RX encode sub tone (Ex D023N DCS)
G. [MENU] [2][6]   Deletes Prior Data in channel (Ex. 31)
H. [MENU] [2][5] [MENU] [3][1] [MENU]   Enter the desired channel (Ex 31)
-->> [EXIT]   Channel has been added
I. Press and hold the [MENU] key to return to the MR mode and the channel number will reappear.

6.9 Built-in LED Flashlight

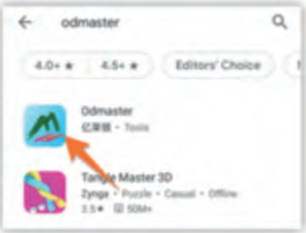
Press the flashlight button to turn and keep the light on. Press the flashlight button again, the light is off.

6.10 Bluetooth Programming

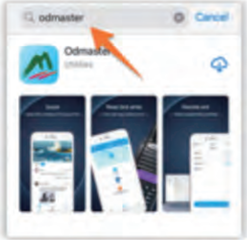
— Step 1 —

Download Odmaster App

Google Play:


odmaster
4.0+ ★
4.5+ ★
Editors' Choice
Odmaster
Tools
Tangle Master 3D
Zynga • Puzzle • Casual • Offline
3.5★ 50M+

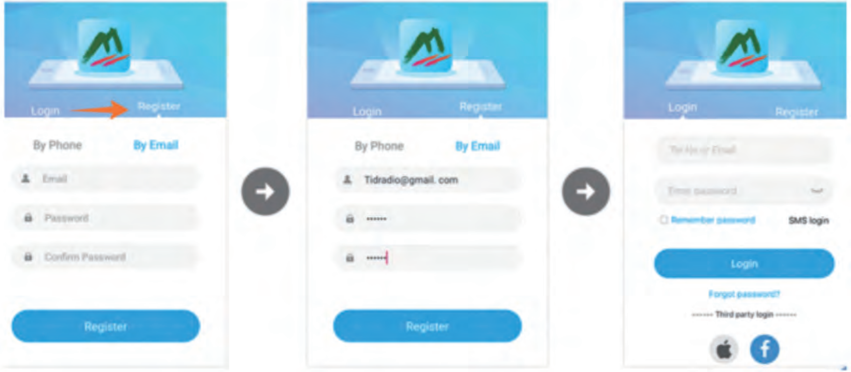
iOS App Store:


odmaster
Cancel
Odmaster
Utilities

— Step 2 —

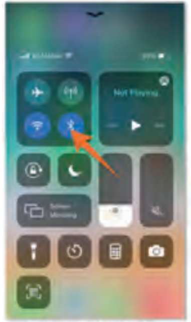
Register an account and log in

Tips : It is recommended to register by email or log in directly by Facebook

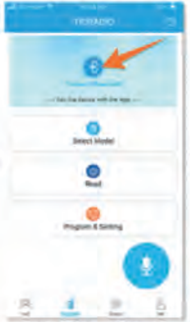

Login
Register
By Phone
By Email
Email
Password
Confirm Password
Register
Tidradio@gmail. com
Tel No or Email
Enter password
Remember password
SMS login
Login
Forgot password?
Third party login

— Step 3 —

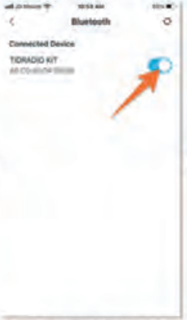
Connect bluetooth and radio in app


Not Playing

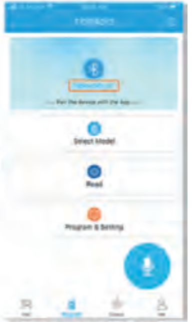
Turn on mobile phone bluetooth


TIDRADIO
Select Model
Read
Program & Setting

Connect bluetooth in App


Bluetooth
Connected Device
TIDRADIO KIT

Connect device


TIDRADIO
Select Model
Read
Program & Setting

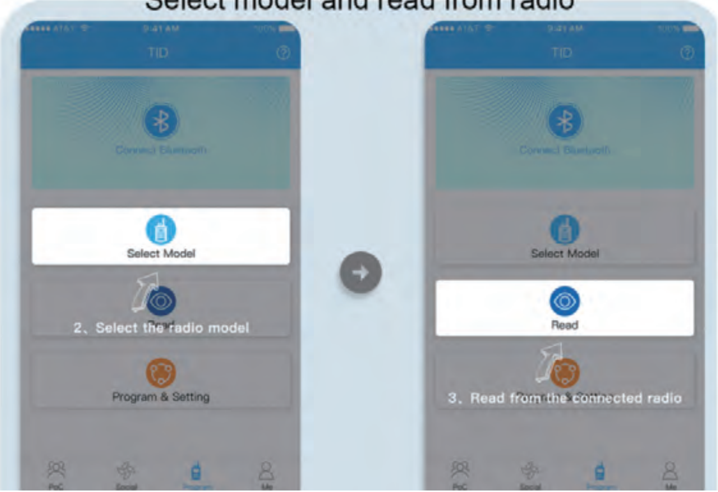
When "TIDRADIO KIT" is displayed, the connection is successful.

Tips:

After the phone is turned on Bluetooth, do not paired the device with your phone in BT settings, just make sure that BT is enabled and then open the Odmaster App and pair with the programmer within the App.

— Step 4 —

Select model and read from radio


TID
Connect Bluetooth
Select Model
Read
Program & Setting
PoC
Social
Program
Me

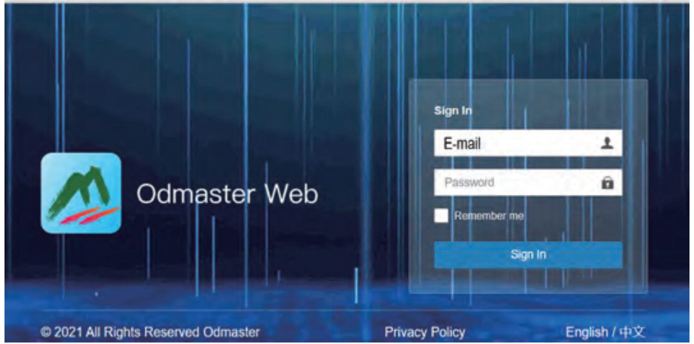
2、Select the radio model

3、Read from the connected radio

PC Programming

Odmaster Web allows you to set parameters on the web page. After saving, it will be synchronized to the mobile phone and can be directly written to the radio. Compared with the mobile phone page, the web page is more comfortable, convenient and faster.

Sign in your account on Odmaster Web
(https://web.odmaster.net)



7. WORKING THE MENU SYSTEM

For a complete reference on available menu items and parameters, see **Appendix C, Shortcut Menu operations.**
Note: in channel mode, the setting of these features is not possible: CTCSS/ DCS tones, wide/narrow bandwidth, PTT-ID, Busy channel lock out, channel name edit.

7.1 Basic use

Using the menu with arrow keys
A. Press the [MENU] key to enter the menu.
B. Use the ⌒ / ⌣ keys to navigate between menu items.
C. Once you find the desired menu item, press [MENU] again to select that menu item.
D. Use the ⌒ / ⌣ keys to select the desired parameter.
E. When you've selected the parameter you want to set for a given menu item;
  a). To confirm your selection, press [MENU] and it will save your setting and bring you back to the main menu.
  b). To cancel your changes, press **[EXIT]** and it will reset that menu item and bring you out of the menu entirely.
F. To exit out of the menu at any time, press the **[EXIT]** key.

7.2 Using short-cuts

As you may have noticed if you looked at **Appendix C, Shortcut Menu operations,** every menu item has a numerical value associated with it. These numbers can be used for direct access of any given menu item.

The parameters also have a number associated with them; see **Appendix C, Shortcut Menu operations** for details.
Using the menu with short-cuts
A. Press the [MENU] key to enter the menu.
B. Use the numerical keypad to enter the number of the menu item.
C. To enter the menu item, press the [MENU] key.
D. For entering the desired parameter you have two options:
  a). Use the arrow keys as we did in the previous section; or

b). Use the numerical keypad to enter the numerical short-cut code.

E. And just as in the previous section;

a). To confirm your selection, press [MENU] and it will save your setting and bring you back to the main menu.

b). To cancel your changes, press **[EXIT]** and it will reset that menu item and bring you out of the menu entirely.

F. To exit out of the menu at any time, press the **[EXIT]** key.

G. All further examples and procedures in this manual will use the numerical menu short- cuts.

7.3 Functions and operations

(0) Wide/Narrow bandwidth (Bandwidth) - MENU No.0

This function is used to set the working bandwidth of the radio.
You can choose between wide or narrow bandwidth.
Wide: 25KHz, Narrow: 12.5KHz

(1) Squelch level (Squelch) - MENU No.1

Thanks to this function you can adjust the squelch in 10 different levels:

- Level 0: opened squelch. With this setting, radio will detect all signals, also the weakest ones, but will also receive the background noise or undesired signals.
- Levels 1- 9: level 1 (lowest squelch level), level 9 (highest squelch level).

If the squelch is set to the highest level, the radio will receive the strongest signals only.

(2) TX Power - MENU No.2

This function lets you select the three different power output according to using scenario.

(3) Power save (Power Save) - MENU No.3

The power save feature enables a reduction in the consumption of the battery when the radio is in standby.

You have 6 selections available: Off/1:1/1:2/1:3/1:4/1:8. For example: 1:1= 1s' working and 1s' battery saving. 1:2= 1s' working and 2s' battery is saving.

NOTE: The higher the number the longer the battery lasts. The higher number increases the RX sleep cycle, but you may miss the first few syllables before the RX opens

(4) Step frequency (Step) - MENU No.4

This function lets you select the desired frequency step.
The selectable steps are the following: 2.5/5.0/6.25/10.0/12.5/20.0/25.0/50.0 KHz
Note: in channel mode, this function cannot be modified.

(5) Backlight (Backlight) - MENU No.5

With this function you can adjust the auto off time of the display backlight (Bright,1-30Sec).
When the option is Bright, the backlight is always on, which will affect the battery standby time.
Note: we suggest you setting 4-5s levels.

(6) Keypad beep (Beep) - MENU No.6

When this function is enabled, every time a button is pressed, you will hear a beep tone.

(7) VOX Function (Vox Level) - MENU No.7

This function allows hands-free conversations: just speak in the direction of the microphone and the communication will be automatically activated.

You can choose amongst 6 levels: Off, 1-5. 1 is the highest level, 5 is the lowest one. If this option is set to Off, the VOX function is turned off

Note: the higher is the level, the higher is the microphone sensitivity. The VOX function cannot be modified in SCAN and FM radio mode.

(8) Time-Out-Timer (TOT) - MENU No.8

The TOT function is used to prevent a too long transmission and limits the tx time: TOT temporarily stops the transmission if the radio has been used beyond the max pre-set time (for example 15s, 30s, 45s, etc).

Note: If this option is set to OFF, press and hold the PTT key to keep transmission.

(9) Dual Watch Operation (D.Wait) - MENU No.9

When this function is activated, you can receive the frequency of channel A and channel B at the same time.
If a signal is detected, the▲/▲ pointer will blink on the corresponding channel or frequency.

Note: In Dual Watch operation mode, you can change the parameter of AB channel or frequency freely.

(10) Receiving DCS (Rx DCS) - MENU No.10

DCS codes are similar to access codes and can be added to channels, so as to create a sort of personal channel. They enable the radio to communicate with the users that are tuned on the same channel and have set the same DCS code.
You can choose amongst:

- **Off:** Off
- D023N-D754N (Normal DCS), D023I-D754I (Inverse DCS)

Note: In radio there are 208 groups of normal and inverse DCS codes. This function cannot be amended in channel mode.

(11) Receiving CTCSS (Rx CTCSS) - MENU No.11

As DCS codes, the CTCSS codes can be added to the channels for creating new private channels.

Note: there are 50 groups of CTCSS tones. In channel mode the CTCSS tones cannot be changed.

(12) Transmitting DCS (Tx DCS) - MENU No.12

In this Menu you activate DCS codes in tx mode. You can choose between normal R-DCS (D023N-D754N) and inverted R-DCS (D023I-D754I)

Note: the groups of DCS codes are 208. DCS codes cannot be changed in channel mode.

(13) Transmitting CTCSS (Tx CTCSS) - MENU No.13

In this Menu you can set a CTCSS tone in tx mode.
You can choose: Off or CTCSS (67.0 to 254.1 Hz)

Note: there are 50 groups of CTCSS tones. In channel mode the CTCSS tones cannot be changed.

(14) Voice prompts function (Voice) - MENU No. 14

With this function, you activate a voice that informs you about any operation/ selection you are doing.

(15) TX-SEL - MENU No. 15

MAIN:Transmit on MAIN Channel
BUSY:Transmit on MOST RECENT receiving channel

(16)Scan Add (Scan Add) - MENU No.16

In channel mode, to scan the current channel, the channel must be added to the scan group.

- **On:** Turn on the scan function of the current channel.
- **Off:** Do not scan the current channel.

(17)SCAN Resume Mode (Scan Mode) - MENU No.17

Thanks to this function, radio can SCAN in frequency or channel mode. You can choose amongst three options:

- **Time-operated SCAN**

Whenever a signal is detected, the radio will suspend the SCAN for 5 seconds, and then will continue to SCAN even if the signal is still present.

- **Carrier-operated SCAN**

Whenever a signal is detected, the radio will stop scanning. It will resume to SCAN once the signal will disappear.

- **Search -Search SCAN**

The radio will stop scanning once a signal is detected.

(18) FM Dual Watch (FM-DW) - MENU No.18

(19) Channel A Display Mode (MDF-A) - MENU No.19

This function is used to set the display mode of channel A.

Display modes:

- **Frequency:**Frequency + channel No.
- **NAME:** Channel name

Note: Channel name mode must be set by the programming software. Up to three numbers or characters can be edited.

(20)Channel B Display Mode (MDF-B) - MENU No.20

This function is used to set the display mode of channel B.

Display modes:

- **Frequency:**Frequency + channel No.
- **NAME:** Channel name

Note: Channel name mode must be set by the programming software. Up to three numbers or characters can be edited.

(21)Busy Channel Lock (Busy Lockout) - MENU No. 21

When this function is on, it may prevent other radios’ interference. If the selected channel is being used by other radios,when you press key PTT, your radio cannot transmit.

Release the PTT and transmit as soon as the frequency is no longer busy

(22) Auto Keypad Lock (AUTO LK) - MENU No.22

When this feature is activated, the keypad will be automatically locked after 15s; this prevents accidental pressure of any keys.

The keypad lock can be manually activated/deactivated through the keypad: keep pressed [* 🔑] .

(23) Frequency offset direction (Direction) - MENU No.23

Using this function, you can set the direction of the frequency offset in rx and tx.

You have the following options:

- **Plus:** Positive offset;
- **Minus:** Negative offset;
- **None:** None offset.

Note: you should set different frequency deviation according to the repeaters selected. This function is not enabled in channel mode.

(24) Frequency offset (Offset) - MENU No. 24

In this MENU you can set the deviation between tx and rx. The frequency offset of this radio 00.00000-69.99750MHz

(25) Channel store - (Memory) - MENU No. 25

When the radio is in frequency working mode or standby mode, input the desired frequency or parameters directly.

NOTES: If you want to set CTCSS tones, DCS codes or the frequency offset, you have to do it before storing the channel. The channels already stored are displayed as CH-XXX ("CH" and -channel number), and other channels only display channel numbers.

(26) Channel Delete (Delete) - MENU No.26

In this menu you can delete a channel of the radio.

(27) Alarm Mode (Alarm Mode) - MENU No.27

This function can set the tone alarm/site alarm of the radio.
Provided the LAMP Key is customized to [SOS] Key.Keep pressed the [SOS] key for 3 seconds to start the alarm tone.
The following three options can be selected:

- On Site: the sending radio emits an alarm tone
- TX Alarm: the sending and receiving radios both emit the alarm tone

(28) Scan of frequencies with CTCSS (SEEK CTC) - Menu No. 28

The function allows scanning the frequencies with CTCSS tone enabled.

(29) Scan of frequencies with DCS (SEEK DCS) - Menu No. 29

This function allows scanning the frequencies with DCS code enabled.

(30) Squelch tail elimination (TAIL) - Menu No. 30

This function is used eliminate squelch tail noise between handhelds that are communicating directly (no repeater). Reception of a 55 Hz or 134.4 Hz tone burst mutes the audio long enough to prevent hearing any squelch tail noise.

(31) Roger beep (ROGER) - Menu No. 31

When the PTT is released, the radio will beep to confirm to other users that you have finished your transmission and that they can start talking.

(32) 1750Hz Repeater Tone (R-TONE) - Menu No.32

With this function you can select 1000Hz, 1450Hz, 1750Hz, 2100Hz repeater tone. To send out a repeater tone; You hold down the [PTT] + [LAMP] key.
If you have the keypad lock enabled on your radio, you can still send a 1750Hz tone the regular way without having to unlock your radio.

(33) Language selection (Language) - Menu No. 33

With this function, you can select the language of the LCD display and operation prompt.

(34) Frequency hopping system (Hopping RX) - MENU No. 34

With this function, you can activate the frequency hopping system, improve the anti-interference ability of the radio,

(35) Reset (Reset) - Menu No.35

With this function you can reset the transceiver to the factory-programmed settings and parameters. After that, you can set the desired functions.
There are three types of reset:

- VFO: Frequency Reset
- CH: Channel Reset
- ALL: Frequency and channel Reset

(36) Dual Band single display (SYNC) - Menu No.36

The radio is dual-band, dual-display, and the screen can display A/B frequency band at the same time. It can also be set to dual-band single-screen display. When single frequency point is displayed, the channel nickname, frequency and channel number will be displayed at the same time.

•On: Turn on the SYNC function and display the alias, frequency and channel number of the current channel.

•Off: Turn off the SYNC function, which is a dual-segment dual display mode. The main frequency and sub frequency will be displayed.

(37) PTT-ID (PTT-ID) - MENU No.37

With this function you can decide when sending the ANI-ID code in tx mode.
You can choose amongst 4 possibilities.

- **Off:** press PTT to turn it off
- **BOT:** the code is sent when you press the PTT
- **EOT:** the code is sent when the PTT is released
- **BOTH:** the code is sent when you press and release the PTT

Note: select 'OFF' when using in case of affecting the radio.

(38) DTMFST (DTMFST) - MENU No.38

Determines when DTMF Side Tones can be heard from the transceiver speaker. You can choose amongst two options:

- Off: No DTMF Side Tones are heard
- On: DTMF Side Tones are heard

(39) ANI-ID (ANI-ID) - MENU No.39

With this function you can set your ID-code. It can be programmed by the proper programming software. You can edit up to 5 digits.

(40) Squelch tail elimination of repeater (RP-STE) - Menu No. 40

This function is used when the radio operates through a repeater; when the PTT is released, the repeater will emit the end transmission tone to confirm it is working.
Available settings:
Off, 1,2,3,4,5,….10 to set the delay time.
Note: Please disable this function in normal using, lest affect your normal conversation.

(41) Delay the squelch tail of repeater (RPT-RL) - Menu No.41

With this function you have the confirmation that the repeater has transferred the signal. You can choose amongst: Off 1,2,3,4,5,….10 to set the delay time.

(42) Version - Menu No.42

This Function is to display the software version, to know whether your radio needs to update or not.

(43) Breath Led - Menu No.43

This feature allows users to customize the frequency at which the LED light flashes during standby mode

(44) PONMSG - Menu No.44

This Function allows our customer to set and personalize their own displays on the screen.

- OFF
- MSG
- ICON

It can be modified by programming software.

(45) MIC GAIN - Menu No.45

Adjust the microphone gain according to their specific needs.The microphone gain
can be adjusted within a range of 0 to 9.

(46) Scramble - Menu No.46

With this function only one received the same decryption program in order to obtain voice.
To communicate with each other only to open the same scramble between loom,
If scrambling different, the machine can receive signals,
but can not hear clearly what is said.

(47) Dec.code - Menu No.47

With this function,you can figure out the frequency and CTCSS/DCS of nearby transmission.

- Step 1: Turn on the Dec.code
- Step 2: Long press the number 1
- Step 3: The monitor will show frequency and DCS when somebody transmit.

(48) AM_BAND - Menu No.48

Enter the receiving frequency.If the local aviation frequency is not clear,
the scanning function can scan the 108-136 full frequency band.

- Menu→48→AM ON set the channel modulation method to AM, listen to aviation intercom.
- Menu→48→AM OFF set the channel modulation method to FM.
- Menu 48 settings are only valid for 108-136 frequency band.

(49) DCD - Menu No.49

DTMF decoding enable signal (OFF,ON)
ON:when the code word received is DTMF personal ID code, the decoding is successful,
and you communicate with the other party within the resetting time.
NOTE:When the reset time arrives, you need to re -decoding.
OFF

(50) D-HOLD - Menu No.50

DTMF Auto Reset Times(5s-60s)

(51) D-RSP - Menu No.51

DTMF Decoding Response (Null; Ring; Reply; Both)

- NULL: Close
- Ring: Local ringing
- REPLY: reply response
- Both: local ringing +reply response)

Appendix A. – Trouble shooting guide

Phenomena	Analysis	Solution
You cannot turn on the radio.	The battery may be installed improperly.	Remove and reattach the battery.
	The battery power may run out.	Recharge or replace the battery.
	The battery may suffer from poor contact caused by dirty or damaged battery contacts.	Clean the battery contacts or replace the battery.
During receiving, the voice is weak or intermittent.	The battery voltage maybe low.	Recharge or replace the battery.
	The volume level may be low.	Increase the volume.
	The antenna maybe loose or maybe installed incorrectly.	Turnoff the radio, and then remove and reattach the antenna.
	The speaker maybe blocked.	Clean the surface of the speaker.
You cannot communicate with other group members.	The frequency or signaling type maybe inconsistent with that of other members.	Verify that your TX/RX frequency and signaling type are correct.
	You may be too far away from other members.	Move towards other members.
You hear unknown voices or noise.	You may be interrupted by radios using the same frequency.	Change the frequency, or adjust the squelch level.
	The radio in analog mode maybe set with no signaling.	Request your dealer to set signaling for the current channel to avoid interference
You are unable to hear anyone because of too much noise and hiss.	You may be too far away from other members.	Move towards other members.
	You may be in an unfavorable position. For example, your communication may be blocked by high buildings or blocked in an underground area.	Move to an open and flat area, restart the radio, and try again.
	It may be the result of external disturbance (such as electromagnetic interference).	Stay away from equipment that may cause interference.
The radio keeps transmitting.	VOX may be turned on or the headset is not installed in place	Turn off the VOX function. Check that the headphones are in place.

NOTE: If the above solutions cannot fix your problems, or you may have some other queries, please contact your dealer for more technical support.

Appendix B. - Technical Specifications

General

Frequency Range	(Rx)50-76,76-108 ,108-136 MHz (Tx/Rx)136-174 ,174-350 ,350-400 ,400-470 ,470-600 MHz
Memory Channel	199
Operation Voltage	DC 7.4 V ±10%
Battery Capacity	2500mAh (Li-Ion)
Frequency Stability	±2.5ppm
Operating Temperature	-20℃ to +50℃
Mode of Operation	Simplex
Antenna Impedance	50ohm

Transmitter Part

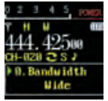
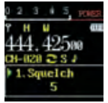
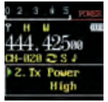
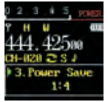
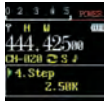
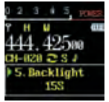
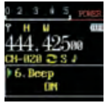
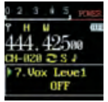
RF Output Power	≤5W
FM Modulation	11K0F3E@12.5KHz
Adjacent Channel Power	60dB @ 12.5KHz
Transmission current	≤1500mA

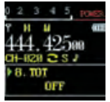
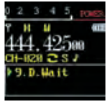
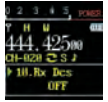
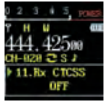
Receiver Part

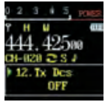
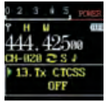
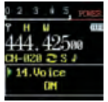
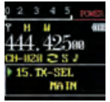
Receive Sensitivity	0.25μV (12dB SINAD)
Adjacent Channel Selectivity	≥55dB@12.5KHz
Inter Modulation and Rejection	≥55dB@12.5KHz
Conducted Spurious Emission	≤-57dB@12.5KHz
Rated Audio Power Output	1W @16 ohms
Receive current	≤380mA
Rated Audio Distortion	≤5%

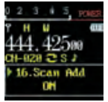
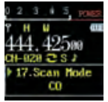
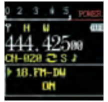
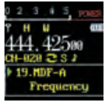
NOTE: All specifications may be modified without prior notice or liability. Thank you.

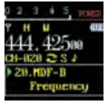
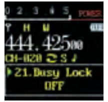
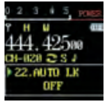
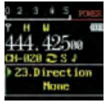
Appendix C. - Shortcut Menu operations

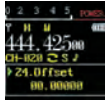
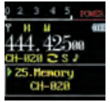
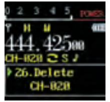
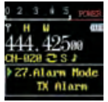
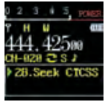
MENU No.	Name (Full Name)	Enter item	LCD display	Selectable
0	Bandwidth /Narrow Bandwidth	MENU+0	 0. Bandwidth Wide	Wide:25.0K Narrow:12.5K
1	Squelch - Squelch Level	MENU+1	 1. Squelch 5	0-9 Levels 0:Lowest 9:Highest
2	TX Power	MENU+2	 2. Tx Power High	Low/High
3	Power Save - Battery Saving	MENU+3	 3. Power Save 1:4	OFF/1:1/1:2/1:3/1:4/1:8
4	Step –Step Frequency	MENU+4	 4. Step 2.50K	2.5K/5.0K/6.25K/10.0K 12.5K/20.0K/25.0K/50.0K
5	Backlight –Auto Backlight	MENU+5	 5. Backlight 15S	Con/5, 10, 15, 30Sec *Time-out for the LCD backlight. (seconds)
6	Beep- Keypad Beep	MENU+6	 6. Beep ON	Off On ***Allows audible confirmation of a key press.**
7	Vox Level - VOX	MENU+7	 7. Vox Level OFF	ON: 1-5 1:Highest Sensitivity 5:Lowest Sensitivity OFF

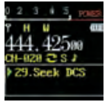
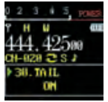
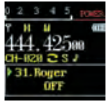
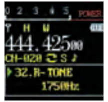
8	TOT - Time-Out-Timer	MENU+8	 8. TOT OFF	15,30…600S ***This feature provides a safety switch that limits transmission time to a programmed value. This will promote battery conservation by not allowing you to make excessively long transmissions, and in the event of a stuck PTT switch it can prevent interference to other users as well as battery depletion**
9	D.Wait – Dual Watch Operation	MENU+9	 9. D.Wait	Off On ***Monitor [A] and [B] at the same time. The display with the most recent activity ([A] or [B]) becomes the selected display.**
10	Rx DCS - Receiver DCS	MENU+10	 10. Rx Dcs OFF	Off D023N…D754N; D023I …D754I ***Mutes the speaker of the transceiver in the absence of a specific low-level digital signal. If the station you are listening to does not transmit this specific signal, you will not hear anything.**
11	Rx CTCSS - Receiver CTCSS	MENU+11	 11. Rx CTCSS OFF	Off 67.0HZ…254.1HZ ***Mutes the speaker of the transceiver in the absence of a specific and continuous sub-audible signal. If the station you are Listening to does not transmit this specific and continuous signal, you will not hear anything.**

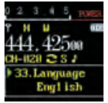
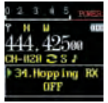
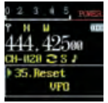
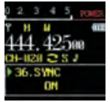
12	Tx DCS -Transmitter DCS	MENU+12	 12. Tx Dcs OFF	Off D023N…D754N; D023I …D754I ***Transmits a specific low-level digital signal to unlock the squelch of a distant receiver (usually a repeater).**
13	Tx CTCSS - Transmitter CTCSS	MENU+13	 13. Tx CTCSS OFF	Off 67.0HZ…254.1HZ ***Transmits a specific and continuous sub audible signal to unlock the squelch of a distant receiver (usually a repeater).**
14	Voice - Voice Reminding	MENU+14	 14. Voice ON	Off On ***Allows audible voice confirmation of a key press.**
15	TX-SEL	MENU-15	 15. TX-SEL MAIN	**Transmit on MAIN Channel** **Transmit on MOST RECENT receiving channel**

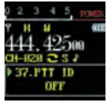
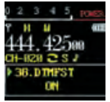
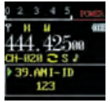
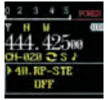
16	Scan Add	MENU+16	 444.42500 CH-020 S 16.Scan Add ON	ON: the current channel is added to the scan, the scan current channel OFF: Do not scan the current channel.
17	Scan Mode	MENU+17	 444.42500 CH-020 S 17.Scan Mode CO	Time - scanning will resume after a fixed time has passed Carrier -scanning will resume after the signal disappears Search -scanning will not resume
18	FM-DW	MENU+18	 444.42500 CH-020 S 18.FM-DW ON	ON OFF
19	MDF-A - Channel A Display Mode	MENU+19	 444.42500 CH-020 S 19.MDF-A Frequency	Frequency: Displays programmed Frequency Name: Displays the channel name ***Note: Names must be entered using software.**

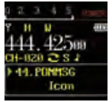
20	MDF-B - Channel B Display Mode	MENU+20	 444.42500 CH-020 S 20.MDF-B Frequency	Frequency: Displays programmed Frequency Name: Displays the channel name ***Note: Names must be entered using software**
21	Busy Lock – Busy Channel Lock-out	MENU+21	 444.42500 CH-020 S 21.Busy Lock OFF	Off On ***Disables the [PTT] button on a channel that is already in use. The transceiver will sound a beep tone and will not transmit if the [PTT] button is pressed when a channel is already in use.**
22	AUTO LK –Automatic Keypad Lock	MENU+22	 444.42500 CH-020 S 22.AUTO LK OFF	Off On ***When ON, the keypad will be locked if not used in 8 seconds. Pressing the [*🔑] key for 2 seconds will unlock the keypad.**
23	Direction – Frequency Offset Direction	MENU+23	 444.42500 CH-020 S 23.Direction None	None: TX = RX (simplex) Plus: TX will be shifted higher in frequency than RX Minus : TX will be shifted lower in frequency than RX

24	Offset -Frequency shift amount	MENU+24		00.00000-69.99750MHz *Note: Specifies the difference between the TX and RX frequencies
25	Memory - Store a Memory Channel	MENU+25		001…199 *Note: This menu is used to either create new or modify existing channels (1 through 199) so that they can be accessed from MR/Channel Mode
26	Delete - Delete a memory channel	MENU+26		001…199 *Note: This menu is used to delete the programmed information from the specified channel (1 through 199) so that it can either be programmed again or be left empty.
27	Alarm Mode - Alarm Mode	MENU+27		On Site TX Alarm
28	SEEK CTC -Scan of frequencies with CTCSS	MENU+28		67.0HZ,…,254.1HZ ***Automatic stop after receiving the CTCSS signal**

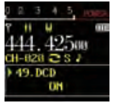
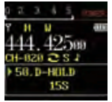
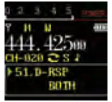
29	SEEK DCS -Scan of frequencies with DCS	MENU+29		D023N,…,D754I ***Automatic stop after receiving the DCS signal**
30	TAIL - Squelch Tail Elimination	MENU+30		On Off ***This function is used eliminate squelch tail noise between handhelds that are communicating directly (no repeater). Reception of a 55 Hz or 134.4 Hz tone burst mutes the audio long enough to prevent hearing any squelch tail noise.**
31	ROGER - Roger Beep	MENU+31		Off On ***Sends an end-of-transmission tone to indicate to other stations that the transmission has ended.**
32	R-TONE–Repeater Tone	MENU+32		1000Hz/1450Hz/1750Hz/2100Hz ***To send out a repeater tone; You hold down the [PTT] + [LAMP/MONI] key.**

33	Language-Language selection	MENU+33	 33.Language English	English
34	Hopping RX-Frequency hopping system	MENU+34	 34.Hopping RX OFF	Off On
35	RESET – Restore defaults	MENU+35	 35.Reset VFO	VFO: Frequency Rest CH： Channel Reset ALL: Frequency and Channel Reset *Note: Resets the radio to factory defaults, with some exceptions.
36	SYNC- Dual Band single display	MENU+36	 36.SYNC ON	ON: Enable single band 2 line display, a display alias frequency; OFF: Normal display status.

37	PTT-ID - PTT-ID	MENU+37	 37.PTT ID OFF	Off: No ID is sent BOT: The selected S-CODE is sent at the beginning EOT: The selected S-CODE is sent at the ending BOTH : The selected S-CODE is sent at the beginning and ending
38	DTMFST - DTMFST	MENU+38	 38.DTMFST ON	OFF: No DTMF Side Tones are heard ON: DTMF Side Tones are heard
39	ANI-ID	MENU+39	 39.ANI-ID 123	**Displays the ANI code that has been set by software. This menu cannot be used to change it.**
40	RP-STE-Squelch Tail Elimination	MENU+40	 40.RP-STE OFF	Off/ 1,2,3…10 ***This function is used eliminate squelch tail noise when communicating through a repeater.**

41	RPT-RL - Delay the squelch tail of repeater	MENU+41	 444.42500 CH-020 41.RPT-RL OFF	OFF/ 1,2,3…10 *Note: Delay the Tail Tone of Repeater (X100 milliseconds)
42	Version	MENU+42	 444.42500 CH-020 42.Version 231204	Display the software version
43	Breath Led	MENU+43	 444.42500 CH-020 43.Breath Led 5S	ON:This feature allows users to customize the frequency at which the LED light flashes during standby mode OFF
44	PONMSG	MENU+44	 444.42500 CH-020 44.PONMSG Icon	Set and personalize your own displays. OFF MSG ICON It can be modified by programming software.)

45	MIC GAIN	MENU+45	 444.42500 CH-020 45.MIC GAIN 05	Adjust the microphone gain according to their specific needs.The microphone gain can be adjusted within a range of 0 to 5.
46	Scramble	MENU+46	 444.42500 CH-020 46.Scramble OFF	Off On
47	Dec.code	MENU+47	 444.42500 CH-020 47.Dec. code OFF	Off On： When the Dec.code function is on,you can figure out the frequency and CTCSS/DCS of nearby transmission. Step:1 Turn on the Dec.code Step 2: Long press the number 1. Step 3: The monitor will show frequency and DCS when somebody transmit.
48	AM_BAND	MENU+48	 444.42500 CH-020 48.AM_BAND OFF	Enter the receiving frequency.If the local aviation frequency is not clear, the scanning function can scan the 108-136 full frequency band. ● Menu→48→AM ON set the channel modulation method to AM, listen to aviation intercom. ● Menu→48→AM OFF set the channel modulation method to FM. ● Menu 48 settings are only valid for 108-136 frequency band.

49	DCD	MENU+49	 444.42500 CH-020 49.DCD ON	DTMF decoding enable signal (OFF,ON) ON:when the code word received is DTMF personal ID code, the decoding is successful, and you communicate with the other party within the resetting time. When the reset time arrives, you need to re -decoding. OFF *Note: Communication unavailable when you turn on this fuction, turn it off when you use the radio)
50	D-HOLD	MENU+50	 444.42500 CH-020 50.D-HOLD 15S	DTMF Auto Reset Time（5s-60s）
51	D-RSP	MENU+51	 444.42500 CH-020 51.D-RSP BOTH	DTMF Decoding Response (Null: Close, Ring: Local ringing, Reply: reply response, Both: local ringing +reply response)

Appendix D. - DCS Table

DCS CODE LIST

Number	Code	Number	Code	Number	Code	Number	Code	Number	Code
1	D023N	2	D025N	3	D026N	4	D031N	5	D032N
6	D036N	7	D043N	8	D047N	9	D051N	10	D053N
11	D054N	12	D065N	13	D071N	14	D072N	15	D073N
16	D074N	17	D114N	18	D115N	19	D116N	20	D122N
21	D125N	22	D131N	23	D132N	24	D134N	25	D143N
26	D145N	27	D152N	28	D155N	29	D156N	30	D162N
31	D165N	32	D172N	33	D174N	34	D205N	35	D212N
36	D223N	37	D225N	38	D226N	39	D243N	40	D244N
41	D245N	42	D246N	43	D251N	44	D252N	45	D255N
46	D261N	47	D263N	48	D265N	49	D266N	50	D271N
51	D274N	52	D306N	53	D311N	54	D315N	55	D325N
56	D331N	57	D332N	58	D343N	59	D346N	60	D351N
61	D356N	62	D364N	63	D365N	64	D371N	65	D411N
66	D412N	67	D413N	68	D423N	69	D431N	70	D432N
71	D445N	72	D446N	73	D452N	74	D454N	75	D455N
76	D462N	77	D464N	78	D465N	79	D466N	80	D503N
81	D506N	82	D516N	83	D523N	84	D526N	85	D532N
86	D546N	87	D565N	88	D606N	89	D612N	90	D624N
91	D627N	92	D631N	93	D632N	94	D645N	95	D654N
96	D662N	97	D664N	98	D703N	99	D712N	100	D723N
101	D731N	102	D732N	103	D734N	104	D743N	105	D754N
106	D023I	107	D025I	108	D026I	109	D031I	110	D032I
111	D036I	112	D043I	113	D047I	114	D051I	115	D053I

116	D054I	117	D065I	118	D071I	119	D072I	120	D073I
121	D074I	122	D114I	123	D115I	124	D116I	125	D122I
126	D125I	127	D131I	128	D132I	129	D134I	130	D143I
131	D145I	132	D152I	133	D155I	134	D156I	135	D162I
136	D165I	137	D172I	138	D174I	139	D205I	140	D212I
141	D223I	142	D225I	143	D226I	144	D243I	145	D244I
146	D245I	147	D246I	148	D251I	149	D252I	150	D255I
151	D261I	152	D263I	153	D265I	154	D266I	155	D271I
156	D274I	157	D306I	158	D311I	159	D315I	160	D325I
161	D331I	162	D332I	163	D343I	164	D346I	165	D351I
166	D356I	167	D364I	168	D365I	169	D371I	170	D411I
171	D412I	172	D413I	173	D423I	174	D431I	175	D432I
176	D445I	177	D446I	178	D452I	179	D454I	180	D455I
181	D462I	182	D464I	183	D465I	184	D466I	185	D503I
186	D506I	187	D516I	188	D523I	189	D526I	190	D532I
191	D546I	192	D565I	193	D606I	194	D612I	195	D624I
196	D627I	197	D631I	198	D632I	199	D645I	200	D654I
201	D662I	202	D664I	203	D703I	204	D712I	205	D723I
206	D731I	207	D732I	208	D734I	209	D743I	210	D754I

Appendix E. - CTCSS Table

CTCSS CHART (Hz)

Number	Frequency	Number	Frequency	Number	Frequency	Number	Frequency	Number	Frequency
1	**67.0**	**2**	**69.3**	**3**	**71.9**	**4**	**74.4**	**5**	**77.0**
6	**79.7**	**7**	**82.5**	**8**	**85.4**	**9**	**88.5**	**10**	**91.5**
11	**94.8**	**12**	**97.4**	**13**	**100**	**14**	**103.5**	**15**	**107.2**
16	**110.9**	**17**	**114.8**	**18**	**118.8**	**19**	**123.0**	**20**	**127.3**
21	**131.8**	**22**	**136.5**	**23**	**141.3**	**24**	**146.2**	**25**	**151.4**
26	**156.7**	**27**	**159.8**	**28**	**162.2**	**29**	**165.5**	**30**	**167.9**
31	**171.3**	**32**	**173.8**	**33**	**177.3**	**34**	**179.9**	**35**	**183.5**
36	**186.2**	**37**	**189.9**	**38**	**192.8**	**39**	**196.6**	**40**	**199.5**
41	**203.5**	**42**	**206.5**	**43**	**210.7**	**44**	**218.1**	**45**	**225.7**
46	**229.1**	**47**	**233.6**	**48**	**241.8**	**49**	**250.3**	**50**	**254.1**

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